

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

Claims 1-15: (canceled).

Claim 16 (previously presented): An apparatus for determining the internal outline of a duct or cavity, comprising:

- light-emitting means (71) suitable for generating a collimated light beam,
- an elongate probe element (51; 51'; 51'') suitable for being introduced into the duct and for guiding the collimated beam along a predetermined propagation direction,
- reflector means (52) supported by the probe element (51; 51'; 51'') and for deflecting the collimated beam so as to illuminate the internal wall of the duct, and for deflecting the reflected or diffused light coming from an illuminated point (P) of the internal wall so as to guide it along the probe element (51; 51'; 51''), and
- detection means (76) for receiving an image of the illuminated point (P), which image is correlated with the optical distance of the point from the detection means (76), and for providing a corresponding electrical signal,
- conoscope means (75) interposed between the receiving reflector means (52) and the detection means (76) and suitable for producing, with the light guided by the reflector means, a holographic image with concentric interference fringes which is detectable by the detection

means (76), the periods of the fringes being correlated with the optical distance of the illuminated point (P),

wherein the reflector means comprise a micro-mirror element (52) rotatably articulated to a distal end of the probe element (51; 51'; 51''), the micro-mirror element (52) being orientable so as to deflect the collimated beam in selectively different directions.

Claim 17 (previously presented): A probe for an apparatus for determining the internal outline of a duct or cavity, comprising a probe arm element (51; 51'; 51'') for being introduced into the duct and supporting at its distal end a micro-mirror element (52) which can deflect a collimated light beam directed along the probe element (51; 51'; 51'') so as to illuminate the internal wall of the duct, and which can deflect the reflected or diffused light coming from an illuminated point of the internal wall so as to guide it once more along the probe element (51; 51'; 51'') to enable it to be received by detection means (76) of the apparatus, wherein the micro-mirror element is rotatably articulated to the probe arm element (51; 51'; 51'') so as to be orientable in a radial plane relative to the probe arm element (51; 51'; 51''), wherein the micro-mirror element (52) is integral to one end of a lever element (53) articulated to the distal end of the probe arm element (51), the free end of the lever element (53) being operable by a control rod element (55) which is arranged parallel to the probe arm element (51) and can translate along its longitudinal axis.

Claim 18 (new): A probe for an apparatus for determining the internal outline of a duct or cavity, comprising a probe arm element (51; 51'; 51'') suitable for being introduced into the duct and supporting at its distal end a micro-mirror element (52) which can deflect a

collimated light beam directed along the probe element (51; 51'; 51'') so as to illuminate the internal wall of the duct, and which can deflect the reflected or diffused light coming from an illuminated point of the internal wall so as to guide it once more along the probe element (51; 51'; 51'') to enable it to be received by detection means (76) of the apparatus, wherein the micro-mirror element is rotatably articulated to the probe arm element (51; 51'; 51'') so as to be orientable in a radial plane relative to the probe arm element (51; 51'; 51''), wherein an electrical current can flow through the micro-mirror element (52) which is disposed between a pair of elongate conductor elements (65'; 66') suitable for bringing about rotation of the micro-mirror (52) as a result of the electrical currents passing through them.

Claim 19 (new): A probe for an apparatus for determining the internal outline of a duct or cavity, comprising a probe arm element (51; 51'; 51'') suitable for being introduced into the duct and supporting at its distal end a micro-mirror element (52) which can deflect a collimated light beam directed along the probe element (51; 51'; 51'') so as to illuminate the internal wall of the duct, and which can deflect the reflected or diffused light coming from an illuminated point of the internal wall so as to guide it once more along the probe element (51; 51'; 51'') to enable it to be received by detection means (76) of the apparatus, wherein the micro-mirror element is rotatably articulated to the probe arm element (F'; 51'; 51'') so as to be orientable in a radial plane relative to the probe arm element (51; 51'; 51''), wherein the probe arm element (51'') is made of ferromagnetic material and is wound up, along its length, by a winding (61'') capable of conducting current, the micro-mirror element (52) also being made of ferromagnetic material, so that the rotation of the micro-mirror (52) is brought about by a magnetic field produced by the current passing through the winding (61'').